

CLAIMS

What is claimed is:

1 1. A portable phone system comprising:

2 a portable phone;

3 a power supply having a power line input and at least one power output, said at
4 least one power output connected through a cable and connector to said portable
5 phone; said at least one power output provides power to said portable phone;

6 a power line networking signal coupling circuit connected to said power line
7 input;

8 an output power coupling circuit connected to at least one output of said at least
9 one power output; and

10 a power line networking interface connected to said power line networking signal
11 coupling circuit adapted to receive power line networking signals from said power
12 line input and adapted to send power line networking signals to said power line
13 input, said power line networking interface connected to said output power
14 coupling circuit to receive data signals from said portable phone and to send data
15 signals to said portable phone.

1 2. A portable phone system as claimed in claim 1, wherein said power line input is a
2 connector suitable to receive a power cord.

1 3. A portable phone system as claimed in claim 1, wherein said power supply is
2 substantially mounted within a wall-wart that plugs directly into a power outlet.

1 4. A portable phone system as claimed in claim 1, wherein said power line networking
2 signal power line coupling circuit comprises a power line coupling capacitor and a power
3 line isolation transformer.

- 1 5. A portable phone system as claimed in claim 1, wherein said output power coupling
2 circuit comprises an output power coupling capacitor and an output power isolation
3 transformer.
- 1 6. A portable phone system as claimed in claim 1, wherein said at least one power output
2 comprises at least one of 3.3V DC, 5V DC, 9V DC, 12V DC, -12V DC, 16V DC, 19V
3 DC, 24V AC and 48V DC.
- 1 7. A portable phone system as claimed in claim 4, wherein said power line coupling
2 capacitor has a value in the range of from 0.1uf to 0.001uf.
- 1 8. A portable phone system as claimed in claim 5, wherein said output power coupling
2 capacitor has a value in the range of from 0.1uf to 0.001uf.
- 1 9. A portable phone system as claimed in claim 1, wherein said power line network
2 interface uses Home Power Line Networking Association standards to communicate with
3 at least one device through said power line coupling circuit.
- 1 10. A portable phone system as claimed in claim 1, wherein said power line networking
2 interface uses at least one type of modulation chosen from a group consisting of
3 frequency modulation, pulse-width modulation, Orthogonal Frequency Division
4 Multiplexing (OFDM), quadrature modulation and Quadrature Amplitude Modulation
5 (QAM).

1 11. A portable phone system comprising:

2 a portable phone;

3 a base station providing electrical connections and support to hold and support
4 said portable phone;

5 a power line input;

6 a power conversion circuit connected to said power line input and housed within
7 said base station, said power conversion circuit provides at least one power output
8 that connects to and provides power to said portable phone;

9 a power line networking signal coupling circuit connected to said power line
10 input;

11 an output power coupling circuit connected to one of said at least one power
12 output;

13 a power line networking interface connected to said power line networking signal
14 coupling circuit adapted to receive power line networking signals from said power
15 line input and send power line networking signals to said power line input, said
16 power line networking interface connected to a first modulator/demodulator
17 circuit, said first modulator/demodulator circuit connected to said output power
18 coupling circuit to receive data signals from said portable phone and send data
19 signals to said portable phone; and

20 a second modulator/demodulator circuit located within said portable phone and
21 connected to said one of said at least one power output, said second
22 modulator/demodulator circuit receiving data signals from said first
23 modulator/demodulator circuit over said one of said at least one power output and
24 for sending data signals to said first modulator/demodulator circuit over said one
25 of said at least one power output.

- 1 12. A portable phone system as claimed in claim 11, wherein said power line input is a
2 connector suitable to receive a power cord.
- 1 13. A portable phone system as claimed in claim 11, wherein said power line networking
2 signal coupling circuit comprises a power line coupling capacitor and a power line
3 isolation transformer.
- 1 14. A portable phone system as claimed in claim 11, wherein said output power coupling
2 circuit comprises an output power coupling capacitor and an output power isolation
3 transformer.
- 1 15. A portable phone system as claimed in claim 11, wherein said at least one power
2 output comprises at least one of 3.3V DC, 5V DC, 9V DC, 12V DC, -12V DC, 16V DC,
3 19V DC, 24V AC and 48V DC.
- 1 16. A portable phone system as claimed in claim 13, wherein said power line coupling
2 capacitor has a value in the range of from 0.1uf to 0.001uf.
- 1 17. A portable phone system as claimed in claim 14, wherein said output power coupling
2 capacitor has a value in the range of from 0.1uf to 0.001uf.
- 1 18. A portable phone system as claimed in claim 11, wherein said first
2 modulator/demodulator uses at least one type of modulation chosen from a group
3 consisting of frequency modulation, pulse-width modulation, Orthogonal Frequency
4 Division Multiplexing (OFDM), quadrature modulation and Quadrature Amplitude
5 Modulation (QAM).
- 1 19. A portable phone system as claimed in claim 11, wherein said second
2 modulator/demodulator uses at least one type of modulation chosen from a group
3 consisting of frequency modulation, pulse-width modulation, Orthogonal Frequency
4 Division Multiplexing (OFDM), quadrature modulation and Quadrature Amplitude
5 Modulation (QAM).

1 20. A portable phone system comprising:

2 a portable phone;

3 a base station providing electrical connections and support to hold said portable
4 phone;

5 a power supply external to said base station;

6 a power line input that connects to said power supply;

7 a power conversion circuit connected to said power line input and housed within
8 said power supply, said power conversion circuit provides at least one power
9 output routed through a connector located on said base station to power said
10 portable phone;

11 a power line networking signal coupling circuit connected to said power line
12 input;

13 an output power coupling circuit connected to one of said at least one power
14 output;

15 a power line networking interface connected to said power line networking signal
16 coupling circuit adapted to receive power line networking signals from said power
17 line input and send power line networking signals to said power line input, said
18 power line networking interface connected to a first modulator/demodulator
19 circuit, said first modulator/demodulator circuit connected to said output power
20 coupling circuit to receive data signals from said portable phone and send data
21 signals to said portable phone; and

22 a second modulator/demodulator circuit located within said portable phone and
23 connected to said one of said at least one power output, said second
24 modulator/demodulator circuit adapted to receive data signals from said first
25 modulator/demodulator circuit over said one of said at least one power output and
26 adapted to send data signals to said first modulator/demodulator circuit over said
27 one of said at least one power output.

1 21. A portable phone system as claimed in claim 20, wherein said power line input is a
2 connector suitable to receive a power cord.

1 22. A portable phone system as claimed in claim 20, wherein said power line networking
2 signal coupling circuit comprises a coupling capacitor and an isolation transformer.

1 23. A portable phone system as claimed in claim 20, wherein said output power coupling
2 circuit comprises a coupling capacitor and an isolation transformer.

1 24. A portable phone system as claimed in claim 20, wherein said at least one power
2 output comprises at least one of 3.3V DC, 5V DC, 9V DC, 12V DC, -12V DC, 16V DC,
3 19V DC, 24V AC and 48V DC.

4 25. A portable phone system comprising:

5 a portable phone;

6 a power supply;

7 a power line input connected to said power supply;

8 a power conversion circuit connected to said power line input having at least one

9 power output connected to said portable phone through a power cable and a

10 connector, said power conversion circuit provides power to said portable;

11 a power line networking signal coupling circuit connected to said power line

12 input;

13 an output power coupling circuit connected to one output of said at least one

14 power output; and

15 a power line networking interface connected to said power line networking signal

16 coupling circuit adapted to receive power line networking signals from said power

17 line input and adapted to send power line networking signals to said power line

18 input, said power line networking interface connected to said output power

19 coupling circuit to receive data signals from said portable phone and send data

20 signals to said portable phone.

1 26. A portable phone system as claimed in claim 25, wherein said power line input is a

2 connector suitable to receive a power cord.

1 27. A portable phone system as claimed in claim 25, wherein said power line networking

2 signal power line coupling circuit comprises a coupling capacitor and an isolation

3 transformer.

1 28. A portable phone system as claimed in claim 25, wherein said output power coupling

2 circuit comprises a second coupling capacitor and a second isolation transformer.

1 29. A portable phone system as claimed in claim 25, wherein said at least one power
2 output comprises at least one of 3.3V DC, 5V DC, 9V DC, 12V DC, -12V DC, 16V DC,
3 19V DC, 24V AC and 48V DC.

1 30. A portable phone system as claimed in claim 25, wherein said power cable has a
2 connector adapted to mate with a second connector located on said portable phone.

3 31. A portable phone system system comprising:

4 a portable phone;

5 an external power supply;

6 a power line input that connects to said external power supply;

7 a power conversion circuit connected to said external power line input and housed
8 within said external power supply, said power conversion circuit connected to
9 said portable phone through a power cable and connector; said power conversion
10 circuit provides at least one power output to power said portable phone;

11 a power line networking signal coupling circuit connected to said power line input
12 housed within said external power supply;

13 an output power coupling circuit connected to one of said at least one power
14 output, said output power coupling circuit housed within said external power
15 supply;

16 a power line networking interface connected to said power line networking signal
17 coupling circuit adapted to receive power line networking signals from said power
18 line input and send power line networking signals to said power line input, said
19 power line networking interface connected to a first modulator/demodulator
20 circuit, said first modulator/demodulator circuit connected to said output power
21 coupling circuit to receive data signals from said portable phone and send data
22 signals to said portable phone, said first modulator/demodulator circuit
23 substantially housed within said external power supply; and

24 a second modulator/demodulator circuit located substantially within said portable
25 phone and connected to said one of said at least one power output adapted to
26 receive data signals from said first modulator/demodulator circuit over said one of
27 said at least one output power and adapted to send data signals to said first
28 modulator/demodulator circuit over said one of said at least one output power.

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- 1 32. A portable phone system as claimed in claim 31, wherein said power line input is a
2 connector suitable to receive a power cord.
- 1 33. A portable phone system as claimed in claim 31, wherein said power line networking
2 signal coupling circuit comprises a coupling capacitor and an isolation transformer.
- 1 34. A portable phone system as claimed in claim 31, wherein said output power coupling
2 circuit comprises a second coupling capacitor and a second isolation transformer.
- 1 35. A portable phone system as claimed in claim 31, wherein said power output
2 comprises at least one of 3.3V DC, 5V DC, 9V DC, 12V DC, -12V DC, 16V DC, 19V
3 DC, 24V AC and 48V DC.

1 32. A means for providing an external power supply system with power line networking
2 to a portable phone comprising:

3 a means for housing said power supply system;

4 a means for providing power line input that passes through said means for
5 housing;

6 a means for converting said power line input into at least one output voltage
7 housed substantially within said means for housing;

8 a means for coupling to said power line input, said means for coupling connected
9 to said power line input and said means for coupling substantially housed within
10 said means for housing;

11 a means for coupling to at least one of said at least one output voltage, said means
12 for coupling to at least one of said at least one output voltage substantially housed
13 within said means for housing; and

14 a first means for modulating/demodulating a networking signal through said
15 means for coupling to power line, said first means for modulating/demodulating a
16 networking signal substantially housed within said means for housing; and

17 a second means for modulating/demodulating a networking signal through said
18 means for coupling to said one of said at least one output voltage, said second
19 means for modulating/demodulating said networking signal substantially housed
20 within said means for housing.

1 33. A means for providing an external power supply system with power line networking
2 to a portable phone as claimed in claim 32 wherein said means for providing power line
3 input is a connector suitable for receiving a power cord.

1 34. A means for providing an external power supply system with power line networking
2 to a portable phone as claimed in claim 32 wherein said means for coupling to power line
3 networking signals comprises a coupling capacitor and an isolation transformer.

1 35. A means for providing an external power supply system with power line networking
2 to a portable phone as claimed in claim 32 further comprising a means for providing a
3 third means for modulating/demodulating said networking signals through a second
4 means for coupling to said one of said at least one output voltage, said third means for
5 modulating/demodulating said networking signals housed outside of said means for
6 housing and within said portable phone.

7 36. A portable phone system comprising:
8 a portable phone;
9 a base station providing electrical connections and support to hold and support
10 said portable phone;
11 a power line input;
12 a power conversion circuit connected to said power line input and housed within
13 said base station, said power conversion circuit provides at least one power output
14 that connects to and provides power to said portable phone through a connector,
15 said connector located on a surface of said base station;
16 a power line networking signal coupling circuit connected to said power line
17 input; and
18 a power line networking interface connected to said power line networking signal
19 coupling circuit adapted to receive power line networking signals from said power
20 line input and send power line networking signals to said power line input, said
21 power line networking interface sends and receives power line networking signals
22 to and from said portable phone through separate contacts of said connector.

1 37. A portable phone system as claimed in claim 36, wherein said power line input is a
2 connector suitable to receive a power cord.

1 38. A portable phone system as claimed in claim 36, wherein said power line networking
2 signal coupling circuit comprises a power line coupling capacitor and a power line
3 isolation transformer.

1 39. A portable phone system as claimed in claim 36, wherein said at least one power
2 output comprises at least one of 3.3V DC, 5V DC, 9V DC, 12V DC, -12V DC, 16V DC,
3 19V DC, 24V AC and 48V DC.

1 40. A portable phone system as claimed in claim 38, wherein said power line coupling
2 capacitor has a value in the range of from 0.1uf to 0.001uf.